

# ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

## Title of Invention

Shear wave velocity determination using multi-pole wave

Application Number : 10/783426



Confirmation Number: 6364

First Named Applicant: Samuel Haugland

Attorney Docket Number: PAT029US

Art Unit:

2857

Examiner: Donald E McElheney Jr.

Search string: ( 6661737 or 6671224 or 6678616 or 6714480 or 6766252 or 6791899 ).pn

## US Patent Documents

Note: Applicant is not required to submit a paper copy of cited US Patent Documents

init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
	1	6661737	2003-12-09	Wisniewski et al.	B2		
	2	6671224	2003-12-30	Pabon	B1		
	3	6678616	2004-01-13	Winkler et al.	B1		
	4	6714480	2004-03-30	Sinha et al.	B1		
	5	6766252	2004-07-20	Blanch et al.	B1		
	6	6791899	2004-09-14	Blanch et al.	B2		

## Signature

Examiner Name	Date
	7/19/05

10/783426

Substitute for form 1449A/PTO				Complete if Known	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				Application Number	
				Filing Date	
				First Named Inventor	
				Art Unit	
				Examiner Name	
Sheet	1	of	1	Attorney Docket Number	PAT029US

  

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No.	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code (if known)				
OK	AA	US-	4,698,792	10-06-1987	Kurkjian et al.	
OK	AB	US-	5,278,805	01-11-1994	Kimball	
OK	AC	US-	6,631,327 B2	10-07-2003	Hsu et al.	
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FOREIGN PATENT DOCUMENTS							
Examiner Initials*	Cite No.	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>1</sup>
		Country Code-Number-Kind Code					

  

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published		T <sup>1</sup>
OK	AD	X. M. Tang, et al., "Shear-Velocity Measurements in the Logging-While Drilling Environment: Modeling and Field Evaluations," Petrophysics, Vol. 44, No. 2 (March-April 2003), pp. 79-90.		
OK	AE	G. L. Varsamis, et al, "LWD Shear Velocity Logging in Slow Formations Design Decisions and Case Histories," SPWLA 41st Annual Logging Symposium, June 4-7, 2000, Paper O.		
OK	AF	C. H. Cheng and M. N. Toksoz, "Elastic Wave Propagation in a Fluid-Filled Borehole and Synthetic Acoustic Logs," Geophysics, Vol. 46, No. 7, July 1981, pp. 1042-1053.		
OK	AG	D. P. Schmitt, "Shear Wave Logging in Elastic Formations," J. Acoust. Soc. A., 84(6), December 1988, pp. 2215-2229.		
OK	AH	M. T. Taner, F. Koehler, and R. E. Sheriff, "Complex seismic trace analysis," Geophysics, Vol. 44, No. 6 (June 1999); pp. 1041-1063.		
OK	AI	C. H. Cheng and M. Nfi Toksoz, "Determination Of Shear Wave Velocities In "Slow" Formations," SPWLA 24th Annual Logging Symposium, June 37-30, 1983, Paper V.		
OK	AJ	Georgios L. Varsamis, et al., "A New MWD Full Wave Dual Mode Sonic Tool Design And Case Histories," SPWLA 40th Annual Logging Symposium, May 30 – June 3, 1999, Paper P.		
OK	AK	F. EL-Wazeer, et al., "Applications For A Full Wave Sonic LWD Tool in the Middle East," Society of Petroleum Engineers 13th Middle East Oil Show & Conference, April 5-8, 2003, SPE 81474.		
OK	AL	Jennifer Market, et al., "Processing and Quality Control of LWD Dipole Sonic Measurements," SPWLA 43rd Annual Logging Symposium, June 2-5, 2002, Paper PP.		
OK	AM	Chaur-Jian Hsu and Kikash K. Sinha, "Mandrel effects on the dipole flexural mode in a borehole," J. Acoust. Soc. Am. 104(4), October 1998, pp. 2025-2039.		

  

Examiner Signature	OK [Signature]	Date Considered	07/19/05
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication with applicant.  
<sup>1</sup>Applicant is to place a check mark here if English language Translation is attached.